NT Minerals Pty Ltd
Hanson River Project
EL 29140 and EL 29141
Year 1 Annual Report
For the period
6/08/12 - 5/08/13

Reporting Period: 6/08/12 - 5/08/13
Author: NT Minerals
Date Of Report: 15/11/2013
Target Commodity: All Minerals
Relevant Map sheets: 100K - Willowra, Conical Hill. Crawford, Barrow
250K – Mt Peak, Barrow Creek
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1.0 ABSTRACT

A review of the Hanson River Project has highlighted several magnetic linear features which appear to have been overlooked by past explorers and are considered highly prospective for high grade copper mineralisation.

Recent exploration success by Kidman Resources Limited on the Home of Bullion Project (60km east of Hanson River Project) has discovered high grade copper mineralisation associated with magnetic linear features. It is likely that the Home of Bullion Project will represent a significant new discovery with intersections such as 36m @ 4.1% Cu equivalent being reported. The copper (± zinc ± lead) mineralisation is associated with magnetite and hosted within the Proterozoic Lander Rock beds (metamorphic) which regionally have been intruded by Proterozoic granitic intrusions. The style of mineralisation is suggested by Kidman Resources to represent a Mt Isa style copper system although historical observations suggest the mineralisation may have IOCG related affinities. What is important to note is the magnetite association with the copper mineralisation which can make airborne magnetic data an important exploration targeting tool.

During the reporting period NT Minerals commissioned the reprocessing and merging of all available airborne magnetic data and ground based gravity data covering the Hanson River Project as well as the surrounding region (including over the Home of Bullion project). This data provides an excellent data set to fingerprint the geophysical response of the Home of Bullion discovery. This information can now be applied to our exploration programme and aid with identification of new targets.

The Proterozoic basement geology of the Hanson River Project appears to be mostly interpreted from airborne magnetic data together with some limited historical drill information. The surface geology is mostly mapped as Quaternary cover sediments with historical drilling intersecting cover of greater than 60m in the south eastern portion of EL29140.

A review of the previous exploration over the Hanson Project area shows that due to the extensive quaternary cover almost nil surface geochemical exploration has occurred. Limited drilling has been completed as either orientation regolith drilling or as drilling specifically targeting magnetic anomalies. Reprocessing of the magnetic data by NT Minerals Pty Ltd has identified several moderate intensity magnetic liners which have not been drill tested and all of which has a similar character to the magnetic anomaly observed with the Home of Bullion copper discovery.

It is recommended that further exploration be directed at targeting the potential for high grade copper mineralisation of similar style to the Home of Bullion copper discovery. Magnetic targets identified by NT Minerals Pty Ltd are recommended for drill testing via initial aircore drilling with follow-up RC drilling where anomalous geochemistry is observed.
2.0 LOCATION AND PHYSIOGRAPHY

2.1 LOCATION

EL29140 and EL29141 are located approximately 250km north of Alice Springs and 75km north of Ti Tree. Refer to Figure 1 below.
### 2.2 TENEMENT DETAILS

See Table 1 below for details of EL29140 and EL29141.

<table>
<thead>
<tr>
<th>TITLE INFORMATION</th>
</tr>
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<tbody>
<tr>
<td>EL NUMBER</td>
</tr>
<tr>
<td>PROJECT NAME</td>
</tr>
<tr>
<td>BLOCKS</td>
</tr>
<tr>
<td>AREA (KM²)</td>
</tr>
<tr>
<td>LOCATION</td>
</tr>
<tr>
<td>DATE GRANTED</td>
</tr>
<tr>
<td>DATE EXPIRES</td>
</tr>
</tbody>
</table>

Table 1: Tenement Details

### 2.3 ACCESS

Both EL29140 and EL29141 are either accessed from numerous station tracks west of the Stuart Highway (approximately 75km north of Ti Tree) or via station tracks east from Willowra.

### 2.4 PHYSIOGRAPHY

Both EL29140 and EL29141 are covered by pastoral properties which are crossed by perennial and non-perennial creeks. The main river is the Lander River which lies immediately to the west of the project area. Refer to the Figure 2 below showing the physiographic features.
Figure 2 Physiographical Features of EL29140 and EL29141
3.0 GEOLOGICAL SETTING

3.1 REGIONAL GEOLOGY AND LOCAL GEOLOGY

The majority of the Hanson River Project is covered by Quaternary sedimentary cover above a Proterozoic basement of granitic and metamorphic basement of the Palaeoproterozoic Aileron Province of the Arunta Region. Refer to Figure 3 below.

The Arunta Region of Central Australia is a complex metamorphic terrain which extends from the Paleoproterozoic to the Carboniferous.

Figure 3 Location of historical drilling on the Hanson River Project
Recent work by the Northern Territory Geological Survey highlights a spacial correlation between Cu ± Au (-base metals) occurrences and:

- Magmas emplaced at ca 1770 Ma and ca 1750 Ma in the eastern Arunta region associated with high-T, low-P event
- Magmas emplaced during 1770 Ma and ca 1570 Ma in the central to western Arunta region associated with the Chewings Orogeny

The Paleoproterozoic Lander Rock Formation comprises metapelitic and metapsammitic rocks, including hornfels, slate, phyllite and schist. In places the Lander Rock Formation has been subdivided into the four sub-units including the Woodalla, Walabanba, Anningie and Mount Stafford.

Due to the widespread Quaternary cover over the Proterozoic basement much of the basement has been interpreted by the NTGS from airborne magnetic data. The basement across the project is dominated by metamorphics of the Lander Rock Formation which have been intruded by granitic intrusions interpreted as 1850 Ma to 1800 Ma. Very little Proterozoic basement outcrop is mapped across the project area.

Rocks of the Georgina Basin are interpreted to underlie the Quaternary cover over the southern portion of EL29140.
Figure 4 NTGS interpreted geology covering EL29140 and EL29141
4.0 HISTORICAL EXPLORATION

Previous exploration over the project area has generally been focussed on airborne magnetic data due the widespread quaternary cover which masks the Proterozoic basement rock. The drilling that has been completed has generally targeted the higher amplitude magnetic features and identified some anomalous geochemical intervals. A small amount of the drilling was completed as orientation regolith drilling completed to access the depth of cover.

The majority of the previous exploration completed targeted gold and copper mineralisation although due to the extent of the Quaternary cover only a very small amount drilling has actually been completed. It would be fair to say that the area remains very much underexplored.

4.1 HISTORICAL COMPANY REPORTS

Placer Prospecting (Aust) Pty Ltd:

ATP1994

- CR19700010: Completed several soil traverses although the geochemical data is not supplied and the report appears incomplete and also uncertain as to what commodity is sought.
Utah Development Company

**ATP2430**

- CR19700076: Targeting stratiform base metal particularly stratiform copper. Identified stratiform copper which appears associated with the Georgina Basin well outside the current project area.
- CR19710067: No work completed within the project area.

CRA Exploration Pty Ltd

**EL51**

- CR19730008: Targeting uranium. Some ground radiometric traverses indicate the the calcareous capping rocks are slightly radioactive. Test drilling was unable to penetrate a silicified cap rock.
- CR19740031: Targeting uranium within the surficial calcrete layer. Percussion drilling was completed and hole locations form a part of the NT digital exploration data (33 holes in total completed). Thickest calcrete intersected was 13.5m. Holes were probed and anomalous holes were bulk sampled. Widespread silcrete is also present. No significant results were returned.
Kewanee Australia Pty Ltd

EL 381

- CR19730165: No work completed and uncertain as to what was the exploration target commodity.

Otter Exploration NL

EL1448

- CR19780040: Completed an airborne radiometric survey targeting uranium mineralisation along with several ground traverses.
- CR19790034: Targeting uranium over the northern area and tin over the southern portion. Tin mineralisation is associated with greisen alteration within pegmatite.
- CR19800058: Focused on the Anningie tin field to the south with no work completed in the current tenement area.
RB Mining Pty Ltd

- CR19800206: Exploration targeted tin/tantalum associated with pegmatites. No work was completed over the current tenement area due to the sand cover.
- CR19820034: No exploration within the tenement area. Sampling that was completed is included in the NT digital exploration data file.

Jays Exploration Pty Ltd

- CR19810034: Targeting tin / tantalum and appears that only an airphoto interpretation was completed with no field work.

Key Resources Pty Ltd

- CR19820089: Desk top review of tin/tantalum prospectivity with pegmatites which intrude the metamorphic rocks.
- CR19820257: No work completed
CRA Exploration Pty Ltd

EL2837
- CR19820189: Targeting base metals with no work completed in the current tenement area.
- CR19830001: No work completed within the current tenement area.

BHP

EL4187
- CR19840141: BHP targeted a bulls-eye magnetic / gravity feature from regional data sets. They completed airborne mag, ground mag and gravity and completed 3 drill holes which intersected magnetic gneiss with no associated base metal mineralisation with gold not being assayed. The drill holes completed by BHP are in the NT exploration digital data set.

Stockdale Prospecting Limited

EL5983, EL5984, EL5985
- CR19890625: Conducted diamond exploration with no significant results.
- CR19940184: Do not appear to have completed any work.
- CR19940383: No work completed within the current tenement area.

**Western Mining Corporation**

![Map of Western Mining Corporation tenements](image)

EL7558, EL7559
- CR19930085: Completed some regional soil and rock chip specifically targeting the interpreted transect of the Tanami structural corridor. The sampling data is included in the NT exploration digital data set.
- CR19950107: No work completed within the current project.
- CR19960047: No work completed within the current project.
- CR19960173: No work completed within the current project.
- CR19960912: No work completed within the current project.
- CR19970205: Relinquishment report, no additional work.
- CR19980060: Project JV to Aberfoyle. No work within the current project.
- CR19990028: No work completed.
- CR19990029: No work completed.

**Poseidon Gold Limited**

![Map of Poseidon Gold Limited tenements](image)

EL7778
- CR19930581: Completed orientation RAB, soil and BLEG sampling programme was completed. No significant results returned.
- CR19940692: No new work completed.
EL8180

- CR19940724: No work completed within the project area.
- CR19950709: No Work completed within the project area.
- CR19950851: No Work completed within the project area.
- CR19960708: No Work completed within the project area.
- CR19960865: Relinquishment report, no additional work.
- CR19970574: No Work completed within the project area.
- CR19980047: Relinquishment report, no additional work.
- CR19990125: No work completed.

EL8177

- CR19940830: No work completed within the project area.
- CR19950772: No work completed within the project area.
- CR19950927: No work completed within the project area.
- CR19960809: No work completed within the project area.
- CR19970021: Relinquishment Report, no additional work.
- CR19970627: No Work completed within the project area.
- CR19990126: No work completed.

EL8431

- CR19950002: Completed a large soil programme overlapping with the current project. Data supplied in NT digital data does not include all the elements analysed and also looks like it will required detailed validation.
- CR19960116: Orientation RAB drilling looking at the regolith. Soil sampling (-80#) on a density of 500m x 200m which occurs within the current tenement area however it appears that the sampling was all completed on a transported regolith profile likely to render it an ineffective sampling method. A shallow water table (12m to 15m) was intersected in the orientation RAB drilling over the flood plain of the Hanson River.
- CR19960273: Relinquishment report. No new work completed.
- CR19970096: No additional field work completed due.
- CR19970200: Relinquishment Report, no additional work.
- CR19980112: No additional work completed.
- CR19990128: No work completed.
Aberfoyle Resources Limited

EL8717

- CR19950585: Targeting gold associated with magnetic anomalies similar to the Granites deposit in the Tanami. Completed a regional airborne magnetics survey (500m line spacing).
- CR19950703: No work completed.
- CR19960637: Conducted RAB drilling focussed on testing magnetic features, several traverses were completed. Good regional geology, structure and mineralisation section provided in the report. No anomalous geochemistry was returned from the RAB drilling programme.
- CR19970504: Conducted lag and rockchip sampling with no anomalous results.

EL8764

- CR19950744: Completed a regional airborne magnetic survey over the western portion of their tenement but the survey does not cover the current tenement area.
- CR19960895: RAB drilling (outside of the current project area) targeted magnetic features intersected magnetic granites. No work completed within the current project area.

EL8716

- CR19960092: RAB drilling completed over three magnetic target (reprocessing or regional magnetics data). Appears that some weak geochemical anomalousism is present (base metals and bismuth) which did not excite Aberfoyle.
- CR19960876: Aircore drilling completed intersected generally Quaternary sand cover to 12m and Tertiary cover to <60m. No anomalous geochemistry noted.
- CR19970095: Relinquishment Report, no additional work.
- CR19970765: No work within the current tenement.
- CR19980110: Relinquishment Report, no additional work.
- CR19980377: No work within the current tenement.

EL8718

- CR19960758: Several RAB lines completed over magnetic features all of which lie outside the current tenement area.
- CR19960857: Relinquishment report, no additional work.
- CR19970581: No work completed.
• CR19970727: Relinquishment report, no additional work.
• CR19980653: No work completed.

EL8717

• CR19960793: Relinquishment report. No additional work.
• CR19970616: Relinquishment report. No additional work.
• CR19980654: No work completed.

EL9535

• CR19970505: No work completed other than a review of the BHP bulls-eye magnetic feature which drilling did not assay for gold (by BHP).
• CR19980655: No work completed.

Normandy Gold Pty Ltd

EL9432

• CR19970385: No work completed in the current project area.
• CR19980467: No work completed in the current project area.
• CR19990129: No work completed in the current project area.
**Adelaide Resources NL**

EL9396

- CR19980571: No work completed.

**Discovery Nickel Limited / Proto Resources and Investments**

EL23395

- CR20040626: Completed an airborne EM survey which lies outside of the current tenement area.
- CR20050679: No work within the current tenement areas.
- CR20060614: (Proto Resources and Investments); No work within the current tenements.
- CR20070753: No work within the current tenement areas.
- CR20080483: Relinquishment report
- CR20080635: Relinquishment report

EL24357

- CR20060100: No work completed.
- CR20070852: No work completed.
- CR20080465: No work completed.
- CR20080466: Relinquishment report.
- CR20080636: Relinquishment report.
Astro Diamond Mines NL / Quantum Resources Limited

**EL23409**
- CR20040650: Reprocessed airborne magnetics and identified 3 magnetic targets for diamond exploration follow-up. No field work completed.
- CR20050537: No work completed.
- CR20050713: Relinquishment report, no work completed.
- CR20060625: No work completed.
- CR20060631: Relinquishment report, no work completed.
- CR20070640: No work completed.
- CR20080651: Conducted a detailed airborne magnetic survey just outside of the current tenement area. Data for the survey was not received at the time of the report.
- CR20080846: Relinquishment report.
- CR20090310: Relinquishment report.

**EL23401**
- CR20040678: Reprocessed airborne magnetic targets looking for kimberlites. No field work completed.
- CR20050539: No work completed.
- CR20060623: No work completed.
- CR20060626: Relinquishment report, no work completed.
- CR20070668: No work completed.
- CR20080786: Conducted a detailed airborne magnetic and radiometric survey (400m line spacing). No other work completed.
- CR20080787: Relinquishment report.
- CR20090309: Relinquishment report.

**EL23400**
- CR20040777: Reprocessed airborne magnetic targets looking for kimberlites. No field work completed.
- CR20050538: No work completed.
- CR20060624: No work completed.
- CR20060627: Relinquishment report, no work completed.
- CR20070667: No work completed.
- CR20080789: Relinquishment report.
- CR20090308: Completed a detailed airborne magnetic and radiometric survey (400m line spacing). No other field work completed.

**Goldstream Mining NL**

![Goldstream Mining NL Map](image)

- CR20040728: Targeting Ni with no work completed inside the current tenement.
- CR20050633: Relinquishment report, no work completed. Completed a detailed airborne magnetic and radiometric survey (100m Line spacing) although the location or data is not presented. May not be open file data as yet?
- 20110713: Relinquishment report.

**Matilda Minerals**

![Matilda Minerals Map](image)

- CR20080848: No work completed.

EL26124

- CR20080848: No work completed.

EL26125

- CR20080848: No work completed.
EL25735

- CR20100019: Relinquishment report. No work completed (target calcrete hosted uranium)
- CR20100650: Relinquishment report. No work completed.

### 4.2 HISTORICAL DRILLING

A review of the historical drilling was completed using the open file digital database available through the Northern Territory Geological Survey. Refer to the Figure 5 below showing the location of historical drilling on the Hanson River Project.

Figure 5: Showing the location of historical drilling on the Hanson River Project
5.0 OPERATIONS REPORT

A review of all available data over the project has identified a number of priority targets areas which are planned to be tested with aircore drilling in the next phase of exploration. No field work has been completed on the Hanson River Project during the reporting period.

5.1 REMOTE SENSING

No remote sensing has been completed.

5.2 GEOPHYSICAL ACTIVITIES

All historical airborne magnetic data has been merged and reprocessed by geophysical consultant Mike Sexton. In addition regional ground gravity data was also merged and reprocessed.

Reprocessed geophysical images are shown below.

Figure 6 Showing RTP processed magnetics image.
Figure 7 Showing Tilt Derivative RTP processed magnetics image.

Figure 8 Showing 1VD RTP processed magnetics image.
Airborne magnetic data over the Home of Bullion copper discovery (Kidman Resources Limited) was also reprocessed to access the response of the regional magnetic data. Kidman resources have reported that the high grade copper mineralisation is associated and reprocessing has shown that the mineralisation is associated with a moderate linear magnetic feature. Kidman have also release images of their detailed airborne magnetics survey which also shows a strong correlation between the mineralisation and the copper mineralisation. Refer to the figures below.

**Figure 9** Showing gravity contours and image as well as magnetics targets.

**Figure 10** Showing the magnetic responses over the Kidman Resources Home of Bullion copper discovery.

**Magnetite associated with copper mineralisation**

**Magnetic anomalies associated with high grade mineralisation**
5.3 SURFACE GEOCHEMISTRY
No geochemistry activities have been completed.

5.4 DRILLING
No drilling activities have been completed.

5.5 GEOTECHNICAL STUDIES
No geotechnical studies have been completed.

5.6 RESOURCE AND RESERVE ESTIMATIONS/MODELLING
No modelling has been completed.

6.0 CONCLUSION AND RECOMMENDATIONS
The recent high grade copper discovery by Kidman Resources in the Arunta Province has now opened up the greenfields prospectivity of the Arunta province. NT Minerals has a significant landholding of 1500 km$^2$ which is situated approximately 60 km to the west of the Home of Bullion project and contains several untested targets considered prospective for high grade copper mineralisation.

A review of the magnetic response over the Home of Bullion project was completed and shows a moderate linear magnetic response associated with the high grade copper mineralisation. The magnetic response is due to the magnetite association with the copper mineralisation reported by Kidman Resources.

Reprocessing of available airborne magnetics data and ground gravity data covering the Hanson Project has been completed with four priority magnetic targets being identified which have a similar response to the Home of Bullion discovery.

The next phase of exploration on the Hanson River Project will involve aircore drilling over the magnetic targets identified.